NATIONAL SCIENTIFIC CONVENTION.

American Association for the Advancement of Science.

Cleveland Meeting—First Day.

CLEVELAND, July 28, 1853.

At the meeting of the Scientific Convention this day, immediately after the names of the newly elected members were duly enrolled, and other business transacted, [published in full in the NEW YORK HERALD of yesterday,] the President announced that the first regular paper in order would be read by William C. Redfield, Esq., of New York, upon the subject: "The value of the Barometer in the Navigation of the American lakes."

Mr. Redfield then came forward and read the following interesting paper:—

The great American lakes, which have their final outlet in the river St. Lawrence are hardly more remarkable for the extent of their surfaces, and their great commercial advantages, than for the destructive storms with which they are visited. At times, the navigator of these pluvial seas, perhaps unaware of the approaching tempest, finds it bursting upon him with sudden and resistless fury, while he is exposed on all sides to the proximity of dangerous shores. When a storm exhibits an easterly wind, on the Atlantic coast, the direct force of this wind seldom extends to the great lakes. Every great storm, when viewed in its geographical extent, is found to comprise a great cyclone, or eddying circuit of wind, in which the first wind presented to the observer in these habitudes is from an eastern or southern quarter of the horizon attended, if not preceded by a fall of the barometer—both of which phenomena are due to the northeasterly progress of the cyclone and its turning movement leftwise, around its own axis of gyration. The ocean surface affords no impediment to the full action of the easterly storm winds upon our sea coast—while the diversities of the land surface and the elevation of the country, commonly prevent any direct extension of these ocean winds to the surface of the trans-Alleghanian regions. These same obstructions serve also to lessen the violence, on the Atlantic slopes, of the strong westerly winds which constitute the rearward or closing portion of the strong cyclone, in its northeasterly progress. But, on the great interior plateau, where the lakes are situated, these conditions are in some degree reversed. As the first winds of the advancing cyclone blow from the eastern or southern board, they are impeded by the various conditions and elevations of the continental surface over which they pass—while on the left side of the cyclonic axis, the winds being northeasterly, retrograde to the advance of the turning body or stratum which constitutes the entire cyclone. These first winds are necessarily less violent in their action upon the earth's surface. Often, indeed, they are quite moderate or even gentle, compared with the succeeding easterly winds which follow in the due course of rotative progression. But when the axial centre of the cyclone has passed the station of the observer, the barometer, which has fallen in the meantime to its lowest point, commences rising, and the direction of the wind becomes westerly, and its force is now suddenly and greatly increased, being compounded of both the progressive and rotative velocities of the storm. It is quite probable that these violent westerly winds, which belong to the rear portion of the cyclone, are greatly aided and enforced by the rapid and colder current of the next higher stratum of atmosphere, which coincides in direction. Geographically consentaneous with this change in the barometer, the full power of the whirling tempest, in its regular progress, falls upon and sweeps over the surface of the lakes while the auxiliary force last noticed may limit in giving to those later westerly winds of the cyclone an almost irresistible force. A continued series of cyclones, varying through all degrees of energy, extent, and meteorological effect, is ever passing over the temperate and higher latitudes of the earth, in conformity with the great law of atmospheric circulations, and producing those alternations and successions which are geographically known as the variable winds. As regards the most active and stormy of the North American cyclones, I have but referred to the well known fact that the first, or most advanced portion of each cyclone exhibits easterly or southerly winds, the particular direction when locally considered being determined by the position of the observer latterally in its path. Under these first winds the relative movements of the entire cyclone is seen to produce a depression, or fall in the column of mercury in the tube of the barometer. Now, it is the progress and degree of this depression of the barometer under the passing cyclone, which demands the careful attention of the navigator, especially on our great lakes, for the reason that the force and duration of the westerly gale, which constitutes the rear of the cyclone, is likely to be proportioned to the amount or degree of the barometer's depression. The navigator should carefully note that when the progress of the storm has been such that the barometer has ceased to fall, the central portion of the cyclone has arrived, or is nearly opposite to the position he occupies, and that the local change of the storm—wind to the westward is soon to follow, accompanied, or rather preceded by the first rising of the barometer. It is the period which constitutes the most dangerous crisis of the storm, and of which the barometer thus affords warning. Subsequently, when the barometer has risen to its common elevation, it affords evidence that the body of the stormy cyclone has mostly passed over, and that its violence will ere long be abated. The navigator will perceive that all his precautionary measures should be taken during the fall of the barometer; and that in proportion as this fall continues and increases, the crisis of the storm becomes nearer to him, and its violence the more certain. The easterly or first winds of every cyclone are, of course, favorable for vessels when we bound up the lakes. Allured by this advantage, these winds are commonly and necessarily trusted for a passage in that direction. But, moderation is their force, while thus probably used, can afford no certain measure of the strength and severity of the colder and westerly portion of the gale, which, as we have seen, constitutes the latest and final part of the cyclonic storm. Nor should we forget that the extent to which the barometer falls in each cyclone is an approximate measure of its general rotative force at its mean elevation above the earth's surface, as well as of the violence of its closing westerly winds, as exhibited on the surface of the great lakes. Although the fall of the barometer on the high level of the lakes, under the influence of a rotary storm, is less than is seen on the level of the ocean, in a like storm yet its subsidence is sometimes found equal to ten inches, or even more, below the ordinary mean level of the instrument. Whenever the fall of the barometer exceeds the ordinary extent of the oscillations seen in moderate storms, every proper precaution should be taken to avoid any hazardous exposure to the approaching tempest; and, if its fall be extraordinary in extent or rapidity, prudence requires, at least for sailing vessels, a continuance in port or the shelter of a friendly harbor when it can be obtained. When upon the lakes, the time necessary for reaching an accessible port should early be taken into account, in order that the most proper course of procedure may be seasonably adopted. If unnecessary detention in port or in seeking refuge should sometimes be caused by attending to these indications of the barometer, the same attention would still oftener lead to the gaining of time in cases where unfavorable appearances of the weather might otherwise deceive the judgment of a navigator who had not the aid of his barometer. A convenient substitute for the barometer has lately come into use, which is called the Aneroid Barometer. It has advantages in compactness and less liability to fatal injuries, with greater facility in the reading of its indications. On the other hand, it is liable to gradual changes in its standard readings, and hence requires an occasional reference to a good standard barometer, for the purpose of new adjustment. With this needful precaution, I deem it, for practical purposes, equal to the common barometer, and well suited for lake navigation.

At the conclusion of Mr. Redfield's address, the President called upon Professor Loomis, of the New York University, who read a paper upon "The Great Hail Storm in New York City." The paper of the Professor was very long and tedious, and would hardly impart any new views on the old and hacknied subject of storms. It was very readily controverted, and most successfully by one or two questions by the President. The Professor was unquestionably in too much of a hurry to present a paper. It awakened a long discussion, in which Mr. Redfield, Professor Bache, and others took a prominent part. It was found that different gentlemen had quite different impressions of the same general facts; from which we may infer that it will not be easy to establish a theory, so long as the facts on which it must be based are not settled. Professor Bache came to the conclusion that we would have to observe faithfully many years longer, before we could settle on sufficient reliable data on which to base indistructible theories. This subject has excited lengthy discussion at every meeting of the association, without any very reliable results.

Prof. ST. JOHN, the Secretary, then read the standing committees.

The following resolution was then passed:—

The Treasurer and Permanent Secretary shall be, and are hereby authorized to purchase volumes of the proceedings of the association for the purpose of supplying the demands of its members.

It is to be regretted that the first volumes were published more as private enterprises than at the expense or control of the association.

The following was also received:—

The Curators of the Cleveland Academy of Natural Sciences respectfully invite the American Association for the Advancement of Science, to visit their museum at the Medical College, and make such use of their specimens as may subserve their purposes.

This is a very fine collection, made by Prof. Kirtland chiefly, and is replete in ichthyology and ornithology, for which he is much distinguished.

The general session then adjourned.

SECOND DAY—GENERAL SESSION.

FORENOON.

CLEVELAND, July 29, 1853.

President Pierce took the chair, and announced, the first business, the election of members. The following gentlemen were unanimously elected:—Robert Clark, Cin. O.; H. A. Johnson, M. D., Chicago; William S. VanDeuzer, M. D., Buffalo, N. Y.; David H. Shoffer, Cin., O.; James McElroy, Delaware O.; Loris Blodgett, Washington, D. C.; J. Kirkpatrick, Ohio city. George Willey, Cleveland; R. R. Sandford, Riga N. Y.; B. Fosgate, M. D., Auburn, N. Y.; L. Biggs, M. D., do.; Benjamin Chose, Natchez.

Professor Roche of the Coast Survey, then read the following excellent paper on the discovery of a deep sea bank, in the examination of the gulf stream, in connection with the coast survey by Lieutenants Com. T. A. Craven, J. N. Maffit, U. S. N. assistants in the Coast Survey, with remarks on the character of the bottom, by L. F. Pourtalis, communicated by Professor A. D. Bache, Superintendent United States Coast Survey.

The gulf stream has been explored in connection with the Coast Survey by running sections perpendicularly across it at different points in its course, and exploring the temperature, and as far as practicable, other phenomena of the stream at stations on these sections, and from the surface to depths of six, and in some cases of twelve hundred fathoms. The stations being selected at greater or less distances, according to the less or more rapid changes occurring in the portion of the stream which they were intended to explore. In the exploration made in June last the hydrographic party of Lieutenant Commanding Craven, was instructed to explore the stream in four sections, beginning with one from Cape Canaveral, Florida, perpendicular in the direction of the stream, next taking up one across it from St. Augustine next from St. Simon's, Georgia, and last from Charleston, South Carolina. That of Lieutenant Commanding Moffit was to run the same section from Charleston, and thence to take up others in succession further north. The section from Charleston was explored by Lieut. Commander Moffitt's party between the 2d and 11th of June, and soundings were kept entirely across the stream at depths of less than six hundred fathoms, the bottom being brought up. The longitude reached was 77 deg. 12 min. On the eleventh of June Lieut. Commanding Craven having crossed the Gulf Stream without finding bottom, at more than one thousand fathoms, came upon a deep bank at the depth of 460 fathoms, in lat. 28 deg. 24 min. N., and lon. 79 deg. 15 min. W. This bank was again met on the section north of this at a similar depth, bottom being brought up, and tracked thus to a position corresponding with the Charleston section, where it had been struck by the other party, and bottom brought up from 300 fathoms, in lat. 31 deg. 37 min., lon. 78 deg. 33 min. on the 7th of June. This bank is supposed to be an extension of the Bahama bank, and will be carefully explored. Its discovery is claimed for the officers whose names are at the head of this notice, and for the work with which they are connected. The following interesting remarks are made by Assistant L. F. Pourtalis, who has examined the specimens of the bottom of the sea, deposited by Lieut. Commanding Craven in the Coast Survey Office, and has compared them with those from the coast north of Cape Henlopen, formerly examined by him. I propose to present the details of his examination to the Natural History section. Mr. Pourtalis in a letter to me says:—"I have in hand now the specimens of bottom from the Gulf Stream and obtained by Lieutenant Commanding Craven. I can say that they are among the most interesting I have ever seen. You recollect that I said in my report that with the increase of depth (to the greater depths) the number of individuals appeared to increase. The greatest depth from which I had seen specimens was between 200 and 300 fathoms. There the sand contained perhaps fifty per cent of foraminifera (in bulk). The specimens now before me go to 1,050 fathoms, and there is no longer sand containing foraminifera but foraminifera containing a little or no sand. The grains of sand have to be searched for carefully under the microscope to be noticed at all. The species are the same as found in the deeper soundings in Section II, but the specimens look fresher and appear somewhat larger. The globigerina rosea of D'Orbigny which forms the majority has frequently that delicate pink color to which it owes its name, but which I cannot recollect to have ever seen in more northern specimens. There are also some pieces of coral, and dead shells from the depth of 1,150 fathoms. The corals do not look much worn, but still appear to have been dead. There are some delicate shells of molluscs from depths beyond 500 fathoms, where they were certainly living."

SECTION MEETINGS.

SECTION A, OF PHYSICS AND MATHEMATICS.

Prof. Joseph Lovising, of Cambridge, Chairman.

Prof. W. Chauvenet, U. S. Naval Academy, Secretary.

The Standing Committees consist of its officers, and Profs. E. Loomis, H. L. Eustis, and J. Winlock.

The first paper read before this section was, "On the resistance of vertical plates of tubular bridges, by Herman Kaampt, Superintendent of the Pennsylvania Central Railroad, read by Prof. Eustis." As this paper is very practical in its nature, and from one of the ablest men in the country, I will give it to-morrow.

Second paper—"On the Tides at Key West, Florida, from observations made in connection with the U. S. Coast Survey, by Prof. Bache." As this paper is practical and valuable, I give you the following abstract:—

The results are from one year's hourly observation of the tides at Fort Taylor Key West. The tides ebb and flow twice in the twenty four hours, but the diurnal irregularity in height is relatively large, amounting at a mean to fifty five feet, reaching in extreme cases, eighty-three feet. The mean rise and fall of the tide being about fourteen feet, a knowledge of the laws of the diurnal irregularity by which successive high or low waters may differ, is very important. The corrected establishment for Key West is 9 hours 22 minutes. The diagrams show the peculiarities of these tides by the daily curves. There being two tides in the day, the observations admit of a discussion by the ordinary method, as by those adopted by me for the tides of the Gulf of Mexico. A comparison of the results has been instituted. The half monthly irregularity is shown in table 1, and the accompanying diagram, the law of interval and height is compared with theory, and the differences are very small. The transit to which the tide should be referred is the second before the high water. The constants are reduced from the formula. The diurnal irregularity is also obtained by the usual method. That of high water is greater than that of low, in the proportion of seventy-nine to sixty one. A comparison of the diurnal inequality in interval is made with theory. The discussion is continued by decomposing the curves of observation into two—a semi-diurnal and diurnal curve—treating the interval between their maximum ordinates as variable. The mode of adjusting the compound curve, so as to give the best result in comparing it with the curve of observation, is shown. The sets of curves are compared on the diagram before referred to. The half-monthly inequality of times and heights found in this way agrees remarkably with the formula, and a correction being applied for the difference between the solar and lunar day agrees perfectly with the previous results. They are compared in curves on the diagrams. The diurnal inequalities in height deduced from the maximum ordinates agree remarkably with theory, as is shown by a table and diagram, in which their results are compared. The explanation is given of the different laws followed by the inequalities of high and low water. The diagrams show different cases of interference waves in which the maximum radiates and the distance between the high waters is made to vary. The sum of the squares of the difference between theory and the computed results after correcting for parallax of the moon, is less than an hundredth of a foot for the whole year. The discussion of the value of the interval between the crests of the two waves is in progress. A remarkable change in the mean level of the water at Key West, progressive throughout the year, was noticed on reducing the results. The high water of neat tide in one half of the year is higher than the high water of spring tides in the other half. This is probably due to the winds, those tending to raise the tide in the harbor prevailing during one half of the year, and those tending to depress it the other. This hypothesis has not been fully examined but approximate results are presented, which render its accuracy probably. It is not a little curious that combining the results for the mean level in opposite parts of the year there comes out the curious tide pointed out by Prof Airy, and not hitherto fully deduced from observation, one having half a solar year for its period, and the other half a declination period of the moon. A diagram is given to show that the results, when grouped by the moon's and sun's declinations, conform to the law of change. They do not suffice as a criterion of the wave theory, or equilibrium theory, the result for the moon requiring the constant to be zero, and those for the sun, to be one third or even greater.

Prof. PIERCE remarked on this, that he thought it impossible to determine much on this subject by the thermometers; that the mathematicians could never make a safe summary of all these results; that as they were uncertain, and must fail at last, it was certainly best to get at some theory as soon as possible, whether it be the equilibrium theory or any other; and that this could be done by observations only, such as those instituted by Prof. Bache.

The third paper was "The Zodiacal Light, the periodical appearance of Meteors, and the point in space to which the motion of the solar system is directed. By Daniel Vaughan, Cincinnati." Read by Prof. Chauvenet. This paper supposed that the zodiacal light was caused by the collection of a large number of small meteors in the path of the sun. The paper was one of speculation rather than mathematics.

At the close of the reading, Prof. Gould wished the author of this paper was present, and could show some of the mathematical formulæ here referred to. He thought it a curious paper, full of ingenious speculations and fancies. We are very ignorant of this zodiacal light. We have numerous and differing theories. We must leave pure speculations, and turn to observations and facts.

Professor PIERCE thought the effect of the resisting medium would be to bring the axis of the orbit of all the cometary bodies in a line at right angles to the direction of motion of the medium, and illustrated his opinions by a diagram.

Professor HENRY said that he agreed in the main with the remarks of Dr. Gould, but thought that perhaps Dr. G. was too severe upon speculation. Speculation, restricted by proper conditions, is very useful to science. It should, of course, be so conducted as to lead to an exact discussion upon mathematical basis, while pure speculation, founded on vague analogies or mere imagination, should be discountenanced.

The fourth paper was "On the southeast monsoon of Texas, the northers of Texas and the Gulf of Mexico, and the abnormal atmospheric movements of the North American continent generally. By Lorin Blodgett, of Washington."

Before this paper was read, Professor HENRY rose and remarked that a large series of meteorological observations had been instituted by the Smithsonian Institution, by reason of the fact that Mr. Smithson had bequeathed his money for such purposes, for the advancement of human knowledge. These observations of Mr. Blodgett had been made under the auspices of the institution, and should be credited to it. Mr. Smithson was worthy of the honor, and all these papers should be credited as emanating from the institution. Mr. Blodgett's observations were valuable, and as such should emanate from the proper promotive source.

Mr. Blodgett's paper endeavored to prove, among other points, that the monsoon of Texas, or southeast wind, was caused by the air being heated on the exposed surface of the earth, and rising so rapidly as to induce an inflaming current from the Gulf six months in summer and vice versa.

After the reading of Mr. Blodgett's paper, Professor CASWELL asked where the heating surface which produced the lifting of the air, was situated?

Mr. BLODGETT answered that any of the land on the Gulf of Mexico, or further back, might be so regarded. At any point of this region, or on the Gulf itself the degrees of heat and tariff action might be attained which would produce the phenomena in question.

Mr. REDFIELD asked if the Northers did not uniformly begin at the more southern point, Vera Cruz, for example, before appearing at Gonzales.

Mr. BLODGETT said, not uniformly, as he was assured by residents.

Mr. REDFIELD thought more careful investigation would show that they uniformly began at the more southern point.

Mr. LOOMIS asked whether there was a regular periodic in the region examined by Mr. B.?

Mr. B. pointed to a region in which the southeast wind, or monsoon prevailed for about six months from the Gulf. During the remainder of the year, the resultant direction is from the land; but the directions are very variable, as in portions of the continent.

Professor BACHE said that some interesting results connected with the subject, were in possession of the Coast Survey, deduced from observations of winds at Galveston, from which he inferred the prevalence of northwest winds at certain seasons.

Mr. REDFIELD did not believe in "winds of aspiration," but that if observations were sufficiently extended, evidences of a rotation would be found. The norther being at other places at the same time an easter, a wester, or souther.

Professor BACHE inquired what distinction Mr. B. made between the north wind at Key West and Mobile Port and the northers of Texas? He believed them degrees of the same phenomenon.

Mr. BLODGETT answered that they had features of identity, but that the norther, so far as identified, as to justify the separation of the district in which it occurred, from the district in which the similar phenomena occurred, but in a modified form.

SECTION B.—NATURAL HISTORY AND GEOLOGY, MINERALOGY, CHEMISTRY, GEOGRAPHY, AND ETHNOLOGY.

Committee of Section B.—Professor S. St. John, Chairman; Professor H. L. Smith, Secretary; Dr. J. L. Riddle, Dr. W. I. Burnett, Dr. Jos. Leidy.

This section was organized, with a very large number of gentlemen and ladies in attendance, as in the case of the other section.

The first paper read was "A Geological Reconnoissance of the Arkansas River, by Dr. J. A. Warder, of Cincinnati." This was a voyage from Fort Smith to Napoleon, at the mouth of the river. The lecturer divided the river into an alluvial region; a tertiary and cretacious, an eruptive, a metamorphic orplicated, and the carboniferous. He traced the connection between the slates and metamorphosed sand rocks, with the shales and sandstones of the coal measures. A large collection of specimens, minerals and fossils were exhibited in illustration of the paper, and a list of the plants observed, was appended to the paper, simply as "indications of the botany of the State."

Dr. Warder's paper was quite able and will, with the elaborate map by which it is accompanied, be found very useful to all such as would investigate those regions. We trust that the whole outline map will be engraved.

The second paper was "On the Blood Corpuscle—holding Cells, and their relation to the Spleen, by Dr. W. I. Burnett, of Boston."

The third paper was on the "Origin of Quartz Pebbles in the Sandstone Conglomerate, and the Formation of the Silicious Stratified Rocks, by Prof. J. Brainerd, of Cleveland."

Prof. BRAINARD stated that at the Cincinnati meeting of the association he had presented a paper "On quartz pebbles of the sandstone conglomerate, and reasons for rejecting the theory of water detrition." In this paper the subject was examined very briefly, that in consequence of Dr. Newberry having presented a communication at the Albany meeting, he felt called upon to present the subject more fully before the association. The theory of Prof. B. is simply, that the quartz pebbles of siliceous conglomerates—the sandstones, and other siliceous rocks—are the deposition of silex from solution, and that the theory of these rocks being produced by detrition must be abandoned. The general idea advanced was, that the quartz from granite and the original or primary rocks had been dissolved, and afterwards precipitated in the form of sandstones, pebbles of conglomerates, concretions in limestone, flints in chalk, etc., etc. In proof of this, he cited authorities to prove the occurrence of silex in solution in sea-water, &c. He also denied that in any former geological periods there had been any force in operation capable of breaking up and distributing over so wide an area these materials. He contended, that if this had been true, fragments of all the other primary rocks, so called, would have formed part of the same deposits, and that, moreover, we should find every variety of form, from the extremely angular to the perfectly rounded, and not by any means the uniformity which we observe in the quartose conglomerate. He contended, moreover, that these pebbles were often in regular layers, without intermixture of sand, and had they been deposited from water they would have mingled through every part of the mass. Some of the pebbles of quartz contained within themselves small cavities lined with crystals, which he claimed as evidence of their origin. Also, that for a long line of outcrop of this conglomerate, where it rested directly on a shale, the pebbles were flattened on their lower side. This, he claimed, would not have been exhibited had these pebbles been transported by water. Without following further the details given by the author, we extract the following paragraph as a summary of his views:—

"I assume, then, first, that the sandrocks of the Devonian and probably most if not all of the other systems, have been formed from a solution of siliceous matter in the waters of the primitive ocean; and, second, that the grains of sand and pebbles crystalized from this solution, during their formation in the various geological epochs, have suffered little or no disturbance, except upon shoals the beach of the ocean, or in streams of running water."

Following this, the Professor undertook an elaborate detail of the sources and mode of production of this silex in solution, citing in the end the flints or houstons of the limestones of Tennessee and elsewhere, as having the same origin as the conglomerates and sandstones.

Dr. NEWBERRY remarked, in reply to the article of Prof. Brainard, that this discussion had arisen from the discovery by Prof. B. of some interesting specimens, in which the impressions of fossil plants were as distinctly transmitted to the pebbles which are desseminated through the carboniferous conglomerate, as to the interspaces of undurated sand. Prof. B. accounted for the existence of such specimens by supposing these quartz pebbles to have been formed by segregation of siliceous matter, subsequent to the deposition of the rock, or by some similar process—and not as generally supposed by the attrition of fragments of quartz rock. Dr. N. said that he was compelled to draw a different inference from these nude specimens from that deduced by Prof. B; that Prof. B.'s theory, if accepted, would entail an entire revolution in regard to the mode of formation of not only the important rock in question, but of a large part of the siliceous sedimentary portion of the earth's crust—that he would rather endeavor to find some mode by which these pebbles might have been eroded subsequent to their attrition and deposition—that silica was so soluble that it was readily taken up by a variety of agents—water alone, alkaline solutions, having so wide a range of combination that there was no difficulty in the way of referring the erosion of these pebbles to chemical action. He was confirmed in his adherence to the theory of attrition by finding in this rock, mingled with the quartz pebbles, rolled fragments of jasper, trap, siliceous slate, &c., all of which were certainly transported and rounded by attrition. He had also seen recently, on Lake Superior, in localities where the Potsdam sandstone—the quartz and trap—were so associated together, a conglomerate forming on the beach, which could not be distinguished from that of the carbonifeous era. The sandstone broken down, gave the sand, the quartz, jasper, trap, &c., rolled into pebbles absolutely undistinguishable from those of the carboniferous conglomerate, either in number, position, form or mineralogical character, the surface sand being rippled in precisely the same manner. Dr. N. had never seen anything in the structure of the pebbles in question that looked like a concretive structure—but in the contrary they had the precise structure of massive crystalline quartz. In reference to the mineral origin of coal, advocated by Prof. B., Dr. N. said he must join issue with him, because, first, coal is associated with the impressions of plants—each plant being coated with a pellicle of carbon, corresponding to the size and density of the original plant; second, all coal may be shown to be composed of vegetable tissue; third, coal has been formed by artificial processes, of which he cited some new and interesting instances.

Prof. HALL said he had been present at a former meeting, when this subject was presented by Prof. Brainard, but at that time the remarks were mainly confined to certain phenomena exhibited by specimens presented to the meeting. The question had, however, assumed a wider range, and we had now to meet the theory of silicious deposits from solution, applied to all silicious deposits. In the case of the sandstones and conglomerates, we have, according to this theory, a part of the deposit in the form of pebbles; while the other part is of fine sand, filling the interstices between them. These pebbles had been compared to the concretions of flint in chalk. They were, however, entirely unlike these—there was no apparent or real concretive structure; when broken they showed a laminated structure, and where there were cavities, as in a specimen shown, these were on one side, and appertained to the quatrz in its original condition before it had been broken out and rolled into the form of a pebble. The same pebble presented, also, a cavity of the same kind on the exterior surface, which had been filled with sand. Prof. Hall denied what had been advanced by Prof. B—, that the sand of sandstones was in regular crystals, it being, on the other hand, rounded grains, in all cases examined. The specimens presented before the association consisted of sandstones, conglomerates, crystalline quartz, hornstone, flint, &c. The hornstone from the Tennessee mountain had no analogy whatever with the pebbles of the conglomerate, nor was there any similarity between crystaline quartz and friable sandstone, in their origin or mode of production. It was true, he observed, that under peculiar circumstances, these sandstones would assume the character of the quartz rock. He doubted that the sandstone and conglomerate could have been derived from the so-called primary rocks of the country, for those of New England were, he contended, of the same age as the unaltered rocks of the silurian and carboniferous system. A pebble was shown Professor H., which was claimed to have been flattened by pressure before induration, but which he was satisfied owed its form to its original cleavage, and the two flat faces presented evidence of the cleavage surface but partially worn. He had never seen a pebble flattened after deposition; the flattened surfaces represented as resting on shale; were all corroded as if from solution after deposition, not one of them presented on this flat face the smooth and worn condition of other pebbles or other parts of the same pebble. He denied that there was any similarity between these pebbles and nodules of flint in chalk. Pebbles are frequently fractured at the time of or subsequent to their deposition, and frequently cemented together by silicious matter in solution and percolating through the rock. Professor Hall remarked that the views here advanced, and the collection of specimens having so many different origins, presented as of one origin, were not only striking at the foundation of all our pre-conceived notions, but against facts, and their interpretation, as given by all geologists for centuries.

After the assembling of the session in the afternoon—

Pof. BRAINERD expressed a desire to have the subject farther discussed, and remarked, as Prof. Hall had expressed a conviction that some of these silicious formations were due to silex in solution, why might not all be due to the same cause? He here repeated some of the arguments of the morning, remarking upon a pebble when a minute crystal of quartz had formed upon the surface. This he attributed to the same cause, and to the same time as the formation of the pebble. He farther insisted upon his lines of pebble without admixture of sand. The ripple mark, and other markings, he appeared to consider of small importance.

Prof. HALL, in reply, said—That although there were one or two points to be noticed, yet he apologized to the section for consuming time in a subject of this kind; but since the paper had been read, and would appear as having been read to the association, it ought not to pass without refutation, and for this reason he would speak. He would barely say, however, that so long as Prof. B. interpreted facts and phenomena so differently from himself, and from all other geologists, there was little hope of understanding each other. He said that Prof. B. ought to know that the ripple marks and other phenomena exhibited, could not take place except in a mass of sand, when the particles were to move among themselves, and that such a condition could never supervene upon a mass of silex precipitated from solution. The absence of fossil shells, which had been insisted on was not true, for in southern New York, and in Pennsylvania, there were large areas and a considerable thickness of this conglomerate, where fossil shells were abundant. The valves were opened, and the interior filled with sand and pebbles. The lines of pebbles claimed by Prof. B., to be without admixture of sand, he repeated, were not so—sand filled the interstices in all cases. He here endeavored to show Prof. B. the difference in structure between the silex of flint and hornstone and these pebbles of quartz. Prof. H. concluded with some general remarks upon the conglomerates of the different geological periods, and the condition of quartoze or silicious deposits in formations of different ages and origin.

I noticed many new members since yesterday. Among them are Prof. James Hall, Albany; E. B. Hunt, U. S. M., Eng.; Prof. A. Caswell, Providence; Prof. Stephen Alexander, Princeton; Prof. Chas. Hackley, Columbia College, New York; H. Stansbury, U. S. Eng.; Lieut. Chas. Wilkes, Washington; Prof. O. M. Mitchell, Cincinnati, O.; Prof Coffin, Washington; Mr. Chas. Wentworth Dilke, and Prof. John Wilson, London, England; who are the British Commissioners to the New York Exhibition, and Hon. Wm. Mitchell and his daughter, Miss Maria Mitchell, of Nantucket. You will recollect that Miss Mitchell is distinguished as the discoverer of a comet, and was elected a member of the association at the New Haven meeting. She is not related to Prof. Mitchell of Cincinnati.

Thus far the meetings have been full, and very entertaining. The attendance of prominent members is very large. The number of papers are very great, while there appears a hearty good will among the members in dissecting one another, as in the case of Prof. Hall with Prof. Brainerd, as you perceive by my report, and Dr. Gould with the less distinguished Mr. Vaughan of Cincinnati. This is perfectly right. The association has hitherto been flooded by spurious papers. They have not been sufficiently challenged by the Committee of Censorship, and as long as the committee is forced for want of time to fail in this, it will become the duty of members at the time when such papers are presented. It is supposed that the published proceedings of the association indicate the exact condition of science in the country, and that whatever is printed in the volume is right. Thus, much error has hitherto crept into the volume; some of the grossest errors. I have never heard so much discussion at a meeting. The members seem determined to view things, and men, I might say, elementally.

The meetings have been graced by the beauty and talent of Cleveland, and also by the families of a large number of the visiting members, who are attracted by the Western tour, to this beautiful city, and the doings of the association.

Thus concluded the proceedings of the forenoon of the second day of meeting. T. R.

Six Months' Crime in Boston.

[From the Boston Times, July 29.]

The semi-annual report of the Keeper of Suffolk county Jail to the Inspectors of Prisons, July 16th, shows that there have been committed during the last six months:—

Criminals	3,730	Males	3,550
Witnesses	165	Females	746
Debtors	381		
Total	4,276	Total	4,276

The commitments by order of Court have been for the following offences, to wit:—

Assault	312	Murder	8
Adultery	5	Manslaughter	1
Arson	5	Malicious mischief	9
Breaking and entering stores, &c.	35	Night walking	2
		Obstructing sidewalks	1
Bigamy	4	Perjury	5
Breaking glass	16	Robbery	10
Contempt of Court	3	Receiving stolen goods	10
Making and passing counterfeit money	15	Rape	1
		Selling liquor	5
Cheating by false pretences	6	Selling lottery tickets	1
		Smoking in streets	3
Concealing the birth of a bastard infant	1	Stubborn children	1
		Riot	9
Drunkenness	700	Rescuing prisoners	3
Disturbing the peace	11	Attempt to extort money	5
Deserting a vessel	9	Abduction	2
Escaping from Deer Island	1	Not paying Railroad fare	1
Escaping from House of Correction	2	Debt, &c.	381
Forgery	3	Witnesses (including U. S. witnesses)	165
Fast driving in the street	1	Committed by constables, police officers, and watchmen for examination for various offences, and not remanded by order of the Court	2,060
Gaming	4		
Keeping brothels	17		
Illegal voting	1		
Insanity	1		
Keep'g disorderly houses	18		
Indecent exposure	5		
Larceny	400		

There have been committed within the last six months, for the non-payment of fines and costs imposed by the Police and Municipal Courts, 694. Out of this number there have been discharged, by order of the Police Court, 422; paid fines and costs at the Jail, 246; and 26 now remaining in jail, unpaid.

There has been no escape, and only one death—Christopher Twombly, committed by order of the Police Court, May 12, on a charge of being a common drunkard, died May 23d, of delirium tremens and typhoid fever, according to the verdict of a coroner's jury.

The above report shows an increase over any former report of more than one-third, and also shows that the morals of our city have taken the retrograde march, at least, for the last six months; and should crime continue during the year in the same ratio as for the six months named in the above report, the number of commitments would far exceed eight thousand. At the time the new jail was under process of erection, and even after its completion, there was much said against the city authorities for their folly and extravagance, in building so large and extensive a structure for the accommodation of prisoners, thinking it impossible ever to have a sufficient number at one time to fill it. There are two hundred and twenty cells in the new jail, and each cell intended and furnished for one prisoner only. During the months of February, March, and April, the daily average number was about two hundred, and at one time it ran as high as two hundred and thirty; so that it can be readily seen that in a little more than one year after its completion that every cell must have been occupied, besides leaving a respectable surplus to take lodgings in the lock-ups at the gate, which were intended for those committed by the watch during the night. These lock-ups, which have so often been complained of, as being too small in size and too limited in number for the accommodation of this class of prisoners, are now being enlarged, and will in a short time be ready for occupancy. When completed, they will be sufficiently large to accommodate fifty prisoners. And from present appearances we may safely judge that there is more to be feared that the jail proper will soon have to be enlarged than there is of its being too large, as formerly represented.

A SLAVE OF GEN. WASHINGTON AT THE WORLD'S FAIR.—The Monongahela (Pa.) *Republican* says that there is yet living near Cookstown a slave of Gen. Washington's. He is 124 years of age, and can walk six miles in a day. He is so old that his fingers and toes are nearly all white. He belonged to Washington when he owned what is now known as Washington's Bottom, on which Perryopolis now stands. The estate of Col. Cook was, and still is, bound for his living. He is to be taken to the World's Fair, for exhibition, if arrangements can be made.

Special Meeting of the Board of Education.

JULY 29.—The reading of the minutes of the last two meetings was dispensed with.

COMMUNICATIONS.

From J. C. Luckey—Asking to be employed by the Board. Laid on the table.

From Wm. Drees—Relative to furnishing his school in Forty-first street. To Committee on New Schools.

On motion of Dr. FELL, a committee was appointed to inform the Public School Society that this Board is now in session, and invite those members who have been appointed commissioners of common schools in pursuance of the act passed June 4, 1853, uniting the two systems, to take their seats as members of the Board of Education. Adopted; and Messrs. Fell, Beekman and Vultee were appointed as said committee.

NEW COMMISSIONERS.

The President announced the following as the commissioners appointed by the Public School Society:—Wm. P. Coolidge, E. C. Pierson, J. W. C. Leveridge, T. B. Stillman, Israel Russell, John T. Adams, Joseph Curtis, Henry H. Barrow, Joseph B. Collins, Linus W. Stevens, J. F. DePeyster, Benj. R. Winthrop, Wm. H. Neilson, Peter Cooper, John Davenport.

Dr. FELL reported that the committee had performed the duty assigned them, and took pleasure in now introducing the appointees of said society to the Board.

Mr. C. H. SMITH was appointed President *pro tem.*

Mr. BENEDICT offered the following preamble and resolutions:—

Whereas, on the joint application of this Board and the Public School Society, the said society was authorized by law to convey their property to the city corporation, and to transfer their schools to the care of this Board, and, after appointing certain of their own Trustees to remain as school officers of the wards, including fifteen to be members of this Board, to dissolve their corporate existence; and whereas said society has completed said arrangement, and has ceased to exist as a seperate corporation, therefore,

Resolved, That the Public School Society is entitled to the lasting gratitude of the people of this city, and of the friends of education generally, for their unremitted and successful efforts, continued through nearly half a century, in disseminating the blessings of education and virtue among thousands, who, otherwise, would have been allowed to grow up in ignorance and vice.

Resolved, That we cordially welcome to their seats in this Board, T. B. Stillman, L. W. Stevens, Peter Cooper, W. H. Neilson, J. P. Adams, Israel Russell, J. B. Collins, John Davenport, J. F. Depeyster, B. R. Winthrop, C. E. Pierson, W. S. Coolidge, H. H. Barrow, Joseph Curtis, and J. W. C. Leveridge, who have been so selected, as members thereof, and that we rejoice in the confident hope that the cause of public education will be strengthened by the union now completed, and will receive at their hands the same faithful, intelligent, and distinguished service which it has hitherto received from their enlightened philanthropy and patriotism. Unanimously adopted.

The Clerk of the Board administered the oath of office to the new commissioners, who then took their seats as members of the Board.

The President having resumed the chair,

On motion, the rules were amended, and the President appointed the following as additional members of the committees of the Board:—

Finance Committee, Adams and Curtis; New Schools, Collins and Barrow; Course of Studies, Coolidge and Davenport; School Books, Pierson and Leveridge; Normal School, Neilson and Davenport; Annual Report, Beadle, Cary and Cooper; Plans, Fell, Stevens and Winthrop; Classification, Stuart, Stillman and Collins; Rules of Order, Williams, Davis and Russell.

RESOLUTIONS.

By Dr. BEADLE—That the salary of Professor Glaubensklee, of the Free Academy, be $350 a year. Adopted.

By the same—That Alfred G. Compton and George Hardy be appointed tutors in the Free Academy, at the salary fixed by the rules of the Board, to commence on the 7th of September next.

By Mr. STUART—That notice be given to the trustees of the Fourteenth ward that this Board intend to consider the propriety of discontinuing primary Schools No. 17 and 47, located in Trustees' Hall. Adopted.

By the same—That A. McKey be continued in charge of the carpenters' work until the further order of this Board. Adopted.

By the same—That James C. Luckey be appointed assistant in the Clerk's office, at the salary heretofore paid him by the P. S. Society, until the further order of this Board. Adopted.

By the same—That the building occupied by the Board be under the care of the Clerk, under the direction of the Board. To Committee on Buildings and Repairs.

By Dr. HIBBARD—That Joseph McKeen be, and he is hereby, appointed City Superintendent of Common Schools, at a salary of $2,000 per annum.

On motion of Mr. WATERBURY, the following substitute was adopted:—

Resolved, That a committee of five be appointed to consider and report a system of superintendence for the schools under the charge of this Board.

Messrs. Beekman, Hibbard, Morand, Curtis and O'Donnell were appointed as said committee.

By Dr. WILLIAMS—That it be referred to a committee to inquire into the expediency of securing the services of Samuel W. Seton, Esq., who for thirty years last past has been employed as agent of the Public School Society. To Committee on City Superintendence.

REPORTS.

Mr. C. H. SMITH presented the report of the Finance Committee in favor of purchasing an additional lot for primary school in Thirty-seventh street. Laid on the table.

Mr. W. JONES presented the report of the Committee on Buildings and Repairs, recommending plans for a primary school in Nineteenth street, near First avenue. Referred to school officers of Fourteenth ward.

The Board adjourned to Wednesday, August 3, at 5 o'clock P. M.

HEART-RENDING INCIDENT.—We are favored with the painful circumstances of the burning of the dwelling of Mr. King, of Auburn, Geauga co., Ohio, and the consequent dreadful death of two of his children. Mr King was absent on business at the time of the sad occurrence, his wife and eight children being alone in the house. In the early part of the evening Mrs. King thought she detected the scent of something burning, and examined every part of the house, as she supposed, thoroughly. Concluding it was a whim of hers, she retired. About 12 o'clock her suspicions were again aroused, and a second time she again searched the house. Coming to the same conclusion as before, she again went to sleep. About three in the morning she was aroused by the falling in of the roof of the woodshed. She immediately raised the alarm, and the children sleeping below were soon aware that the house was on fire. As we understood from the neighbors, the boys were sleeping up stairs. Being awakened by the cry of fire, the older brothers, passing through another room and awakening two younger brothers, (about ten or twelve years of age,) who they supposed would follow them, dashed below to render assistance. One of the brothers thus aroused ran to the head of the stairs to descend, but being met by a sheet of flame, turned and made good his escape at the window. Running with all possible speed to one of the neighbors he entered the house, and spread the alarm by saying he had "got out safe, having burned his hands a little." The boy went to bed, and the most of the family rushed to the scene of conflagration to give aid to the sufferers. Information was given of the arrival of the boy, and, supposing the other had followed him, the wretched family felt somewhat relieved. While the spectators were gazing into the flames to see the fearful fire make its dreadful havoc, the floor above fell into the cellar, and from the burning bed rolled the limbless body of the boy—for the fire had already consumed the legs and arms. What a sight for dear friends. The body was rescued from the flames. The brother who had fled to the neighbors was then sought and found quiet in bed. On removing the clothes, his face, neck and breast told the fearful story. The fire had probably reached his vitals. He complained only of his hands. A despatch was sent to the father, who arrived with all possible haste, and stood over his dying boy until the next day, when he expired.

A DIVER SUFFOCATED.—We understand from the celebrated diver, John Green, that a man named Wm. McDonnell was suffocated while engaged in exploring the wreck of the steamer Erie, above Silver creek, on Wednesday last. This was his first attempt at diving; but, being confident of success, he was engaged by the party having the wreck in charge, and made one descent without difficulty. The second time he remained under water longer than is usual, and when telegraphed to, made no response. Those in charge of the line immediately sought to raise him, but found it had caught in something, making such a thing impossible. On Saturday evening, Green and another skilful diver, Martin Quigley, proceeded to Silver creek with their armor, and on Sunday morning went to the wreck, for the purpose of diving for the body. Arriving there, they found that the rope had become disentangled—in consequence of the buoys being cast about by the waves and wind—and they were able at once to draw up the corps of their comrade. An inquest was held, and a verdict rendered, that "deceased came to his death from apoplexy, caused by the pressure of the atmosphere, and in consequence of having to breathe the same air several times over." Mr. G. informs us that the head was much swollen, and blood had been forced from the mouth and ears. A similar accident, though less fatal in its results, occurred the day before—when another novice descended, and remained so long as to alarm the attendants, who immediately drew him up and found him entirely unconscious. He, however, recovered.—*Buffalo Express, July 26.*

New York Central Park.

AN ACT TO ALTER THE MAP OF THE CITY OF NEW YORK, BY LAYING OUT THEREON A PUBLIC PLACE, AND TO AUTHORIZE THE TAKING OF THE SAME, PASSED JULY 21, 1853.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SEC. 1. All that piece or parcel of land situate, lying, and being in the Twelfth Ward of the city of New York, bounded southerly by Sixty-third street; easterly by the Fifth avenue, and westerly by the Eighth avenue, is hereby declared to be a public square in like manner as if the same had been laid out by the commissioners appointed in and by the act of the Legislature, entitled "an act relative to improvements touching the laying out of streets and roads in the city of New York, and for other purposes," passed April 3, 1807; and the map or plan of said city is hereby altered accordingly.

Sec. 2. The Mayor, Aldermen, and commonalty of the city of New York, are hereby authorized to take the said piece of land for public use as and for a public square, pursuant to the act entitled "an act to reduce several laws relating particularly to the city of New York into one act, passed April 9, 1813," and the several acts amendatory thereto, or such portions thereof as are now in force, so far as the same are applicable to the laying out and taking of public squares and places in the city of New York, except as hereinafter provided; and all such portions of the said act and of the said several acts amendatory thereto as are applicable to the laying out and taking public squares and places in said city, and as are now in force, shall apply to the taking and laying out of the piece of land above described as and for a public square, in the same manner and to the same extent as if the said piece of land had been originally laid down as and for a public square upon the map or plan aforesaid of said city, except as hereinafter provided.

Sec. 3. Five persons shall be appointed commissioners of estimate and assessment instead of three, and in case of the death, resignation, or refusal to act of them or either of them, it shall be lawful for the Supreme Court in the first judicial district, at a special term thereof, on the application of the said Mayor, Aldermen, commonalty, and officers, as such event shall happen, to appoint a discreet and disinterested person, being a citizen of the city of New York, in the place and stead of such commissioner so dying, resigning, or refusing to act.

Sec. 4. In every case of the appointment of commissioners under this act, it shall be competent and lawful for any three of said commissioners so to be appointed, to perform the trust and duties of their appointment, and their acts shall be as valid and effectual as the acts of all the commissioners so to be appointed, if they had acted therein, would have been, and in every case the proceedings and decisions of such commissioners, being three in number, as shall be acting in the premises, shall be as valid and effectual as if the said commissioners appointed for such purpose had all concurred and joined therein.

Sec. 5. The said commissioners may allow compensation for any building or buildings upon the said land, which may have been built, placed, or erected thereon, after the time of the filing of the original maps or plan of the said city.

Sec. 6. Payment of the damages awarded by the said commissioners, shall be made and become due, and payable immediately upon the confirmation of the report of said commissioners in the premises.

Sec. 7. For the payment of so much of the damages awarded by the commissioners of estimate and assessment, and the expenses, disbursements, and charges in the premises, as shall exceed the amounts or sums that may be assessed by the said commissioners upon the parties and persons, lands and tenements, deemed by them benefitted by the opening of such public square or place, it shall be lawful for the said mayor, aldermen, and commonalty, to raise the amount of such excess by loan, by the creation of a public fund or stock, to be called "the Central Park fund," which shall bear an interest not exceeding five per centum per annum, and shall be redeemable within a period of time not exceeding forty-five years after the passage of this act, and for the payment of which the said piece of land so as aforesaid to be taken, shall be irrevocably pledged.

Sec. 8. It shall be lawful for the Mayor, Aldermen, and Commonalty to determine what shall be the nominal amount or value of each same of said stock, and of what number of shares the same shall consist, and they are hereby authorized to sell and dispose of such shares at public auction, or at private sale, or by subscription for such stock, and on such terms as they shall think proper; said stock shall not be sold at less than its par value.

Sec. 9. In order to pay the interest upon the stock hereby authorized, the Mayor, Recorder, and Aldermen of the city and county of New York, as the supervisors thereof, are hereby authorized and empowered to order and cause to be raised by tax on the estates, real and personal, subject to taxation according to law within said city and county, and to be collected in addition to the ordinary taxes yearly, and every year, until the whole amount of the stock be paid, a sum of money sufficient to pay the interest annually accruing on said stock.

Sec. 10. The provisions of the act entitled "An act to regulate the finances of the city of New York," passed June 8th, 1812, which are not repugnant to or incompatible with any provision in this act contained, shall apply to said stock.

Sec. 11. This act shall take effect immediately.

The Ten Hour Bill.

The following is a copy of that act passed at the recent extra session of the Legislature:—

AN ACT REGULATING THE HOURS OF LABOR ON PUBLIC WORKS.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Sec. 1. Ten hours shall be deemed a day's work, in the absence of any agreement for mechanics and laborers on all public works of this State.

Sec. 2. This act shall take effect immediately.

Railroad Intelligence.

MILWAUKIE AND MISSISSIPPI RAILROAD.

The Milwaukie *Sentinel* announces that the contract has been closed with Mr. A. L. Catlin, of Burlington, Vt., for the completion of the Milwaukie and Mississippi Railroad, from Rock river to the Mississippi, at $25,000 per mile, thoroughly equipped. The contractor engages to complete the road to Prairie du Chien by the 1st of January, 1855—less than eighteen months.

ROCHESTER AND PITTSBURG RAILROAD.

A permanent organization has been effected to build the connecting link of railroad between Portage and the State line, through Angelica, under the title of the "Rochester and Pittsburg Railroad Company."

FREMONT AND INDIANA RAILROAD.

We learn by the Fremont *Journal* that the construction of the whole line of this road has been let out. The road extends from Fremont to Lima, in Allen county, where it connects with the road now in course of construction from Dayton to Toledo; and it is proposed to extend the road to Union, on the Bellefontaine and Indianapolis road, making important connections at that place with the west and southwest, and affording the most direct route from that point to Cleveland. At Fremont the road connects directly by lines already finished, with Cleveland, Toledo and Sandusky.

LAKE SUPERIOR RAILROAD.

We learn from the Lake Superior *News* of the 16th ult., that a railroad is in contemplation from St. Paul to Fond du Lac, Lake Superior. A charter has been granted, a company organized, and the stock is all taken. The road will be from eighty to one hundred miles in length. It opens an outlet for the trade of the whole upper Mississippi region, and will bring into market a vast and fertile tract of land, now almost wholly cut of the world.

KNOXVILLE AND DANVILLE RAILROAD.

The tedious survey of the route of this proposed improvement, says the Louisville *Courier* of the 26th inst., was completed last week. The result is quite as favorable as was anticipated. The line passes through the counties of Knox, Anderson, and Campbell, in Tennessee, and Whitley, Laurel, Pulaski, Rockcastle, Lincoln, and Boyle, in Kentucky. The Danville *Tribune* is informed that the line through these counties measures one hundred and sixty-two miles, but by connecting and running more directly from a point in Whitley, that sixteen miles of the distance may be saved, and the entire line reduced to one hundred and forty six miles. The maximum grade on the line run is fifty-two feet. In passing the Cumberland mountain at Elk Gap, the grade on the Kentucky side is fifty feet, and on the south, or Tennessee side, it is thirty-four feet. The entire line is represented as a very favorable one, as to grades, curves, and magnitude of work. The cost of construction, it is confidently believed by the engineers, will range between $20,000 and $25,000 per mile. The citizens of Pulaski county being dissatisfied that the town of Somerset was left off the line by the above survey, have fully organized the "Danville, Somerset, and Knoxville Railroad Company," of which the Board of Directors have elected Cyrenius Wait, Esq., president. The intention is to secure the services of a competent corps of engineers, and make an accurate survey of the proposed route through Louisville as soon as practicable.

FOX RIVER VALLEY AND WISCONSIN CENTRAL RAILROAD LINES CONNECTED.

At the meeting of the Board of Directors of the Wisconsin Railroad, (says the Chicago *Tribune* of the 26th ult.,) held at Elkhorn, on Friday last, a contract was entered into by said Board and the Fox River Valley Railroad, by which a connection is secured between these roads at the State line, at Genoa, Walworth county. This connection we regard as not only highly important to these roads, but to the interests of Chicago. By the construction of the Central to Genoa, and the Fox River Valley Railroad thence to Elgin, where it connects with the Galena Railroad, a large and rich territory, the very heart of Wisconsin, is brought in direct communication with Chicago, and thus a large trade will be secured which might otherwise be diverted by rival interests.

ALLEGANY VALLEY RAILROAD.

The balance of this road, from Aurora to the junction with the Attica and Pittsburg road, was let on the 27th July. Ten miles were immediately sub-let to a Rochester company, who are to go to work next week on the section between Aurora and Holland. So it appears that the work is going ahead.